Rotorua Nursery.

Generally speaking the year has been a trying one for nursery-work, owing to the extremely dry windy weather, which started in October, shortly after the transplanting was completed, and continued almost incessantly during November and the greater part of December.

In the light pumiceous soil of this district, transplanting operations have to be delayed until the frosty weather is over, and, as drying winds are generally prevalent during the spring, the young plants are called upon to tide over the worst season of the year before they have time to make any root-effort. This year some six hundred loads of soil were blown off the roads and vacant pieces of land and carried amongst the young trees, completely covering some of them, and having a very pernicious effect by injuring the epidermal tissues of the leaves, thus stopping the growth and preventing the trees from offering any resistance. Some of the pines had the appearance of having been carefully sandpapered, and the leaves instead of being green were almost transparent. Fortunately, moist growing weather set in about Christmas, and the trees recovered rapidly, and have since made excellent growth.

During the year rain fell on 108 days, with a total fall of 46·74 in., the heaviest monthly fall occurring in January, when 9·23 in. were recorded. The greatest heat was registered in December, with 84° Fah.; and the lowest temperature in July, with 24° Fah., or 8° of frost.

The work of transplanting seedling trees was commenced at the beginning of August, and completed early in September, the number of trees dealt with being 730,000—472,000 lined out, and 258,000 lined in closely. The average cost of transplanting was 3s. 3d. per thousand for lining out, and 9d. per thousand for lining in. The loss in transplanting is estimated at 6 per cent.

Seed-sowing commenced in October, and all species except *Sequoia sempervirens* (redwood) germinated well and have made good growth. The estimated number of trees of all ages in the nursery on the 31st March was 2,770,294, and their value—reckoned at considerably below wholesale market rates—£4,201 3s. 4d., particulars of which will be found in Schedules C to C^4. Of this number, 1,000,000 (including some 500,000 eucalypti in four varieties) will be sent to the various plantations during the coming winter and spring.

Trees and shrubs numbering 649,245, and valued at £2,960 12s. 9d., were sent to various plantations, Government reserves, &c., during the year, particulars of which will be found in Schedule C^5.

From the initiation of the nursery to date trees numbering 4,566,481, and valued at £8,502 14s. 2d., have been grown, and the number of trees transferred to forest plantations, Government reserves, domains, &c., is 1,290,326, and their value £6,227 10s. 3d.

An area of 15 acres adjacent to the stable building was fenced as a horse-paddock. This land was ploughed last autumn, and left in a rough state through the winter, when it was broken down with a Cambridge roller and cross-ploughed. Lime was then applied at the rate of 1 ton to the acre, and thoroughly incorporated with the soil by means of a spring tooth harrow. After the land had again been rolled four times, a mixture of grass and clover (principally composed of Chewing's fescue, *Danthonia*, cow-grass, and alsyke clover) was sown and brushed in. The result is highly satisfactory. The seed germinated well, and by the middle of January (fourteen weeks after sowing) the horses were turned into the paddock.

During the spring some twelve hundred trees and shrubs were planted throughout the nursery-grounds for shelter and ornamental purposes. The shelter trees, consisting principally of the fast-growing *Pinus insignis*, have succeeded splendidly, and ought in a few years to afford excellent protection to the young nursery stock; while the ornamental shrubs have also done well.

During April last the water-service was extended through the transplanting-area. Half-inch pipes were laid along the side of the road, with standpipes and taps placed at convenient distances. This has proved a great labour-saver, as hitherto, when trees were being lifted for the plantations, water had to be carted nearly a quarter of a mile for puddling them.

Seed-protecting frames, to the number of 98, were made before seed-sowing commenced in the spring. In order to economise land and also labour, these were made 6 ft. in width instead of 3 ft. as has hitherto been the practice. The new 6 ft. ones have proved highly satisfactory, and it is intended to adopt this size for most classes of tree-seeds in the future.

Among the seedling trees this year are *Catalpa speciosa*, *Catalpa bignonoides*, *Acacia melanoxylon*, and some three dozen varieties of eucalypts, all of which were raised for the purpose of testing their suitability to this district.

The *Catalpa speciosa* has received a deal of attention during the last few years from the United States Forestry Bureau, who strongly recommend it as a tree eminently suited for artificial planting, on account of its rapid growth and the value of its timber for railway-sleepers and other purposes where durability is required. The trial so far has been very satisfactory—9 lb. of seed was sown in September, resulting in some 37,000 sturdy plants from 12 in. to 15 in. high. These will be transferred to the plantation during the coming planting season.

Catalpa bignonoides made very fast growth in the seed-beds, but is less hardy than the variety *speciosa*, and is inferior to that variety as a timber tree. It is improbable that it will stand an average winter in the district.

Acacia melanoxylon, commercially known as blackwood, is a native of Australia. The timber is most valuable for furniture, railway-carriages and veneering, but it is yet uncertain whether or not it will stand the frost here.

The eucalypti were grown mainly to test their frost-resistance. This genus, comprising probably 150 species, is largely distributed throughout Australia, where it is endemic, and is there found